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**ASSIGNMENT 01**  
\* Submit your assignment in a document or text file by mentioning Questions & their solutions\*  
  
Q.1: Create two integer variables length and breadth and assign values then check if they are square values or rectangle values.  
ie: if both values are equal then it's square otherwise rectangle.

Answer: **void main(){**

**int length=4;**

**int breadth=6;**

**if(length==breadth){**

**print("It is a Square.");**

**}else{**

**print("It is a rectangle.");**

**}**

**}**

Q.2: Take two variables and store age then using if/else condition to determine oldest and youngest among them.

Answer: void main(){

int firstPersonAge=45;

int secondPersonAge=95;

if(firstPersonAge<=secondPersonAge){

if(firstPersonAge<secondPersonAge){

print("First person is younger than second person.");

}else{

print("Both have same age.");

}

}else{

print("First person is Older than second person.");

}

}

Q.3: A student will not be allowed to sit in exam if his/her attendance is less than 75%. Create integer variables and assign value:  
Number of classes held = 16,  
Number of classes attended = 10,  
and print percentage of class attended.  
Is student is allowed to sit in exam or not?

Answer: He/She not sit in exam.

void main(){

int classes\_held=16;

int classes\_attended=10;

if(75<=10/16\*100){

print("He/She Sit in the exam.");

}else{

print("He/She not sit in exam.");

}

}

Q.4: Create integer variable assign any year to it and check if a year is leap year or not.  
If a year is divisible by 4 then it is leap year but if the year is century year like 2000, 1900, 2100 then it must be divisible by 400.  
i.e: Use % ( modulus ) operator.

Answer:

void main(){

int year=2018;

if(year%400==0){

print("It is a Leap Year $year.");

}else{

if(year%100==0){

print("Not a leap Year $year.");

}else{

if(year%4==0){

print("It is a leap year $year.");

}else{

print("IT is not a leap year $year.");

}

}

}

}

Q.5 Write a program to read temperature in centigrade and display a suitable message according to temperature:  
You have num variable temperature = 42;  
Now print the message according to temperature:  
temp < 0 then Freezing weather  
temp 0-10 then Very Cold weather  
temp 10-20 then Cold weather  
temp 20-30 then Normal in Temp  
temp 30-40 then Its Hot  
temp >=40 then Its Very Hot

Answer:

void main(){

num temp=21;

if(temp<0){

print("Freezing weather");

}else{

if(temp<=10){

print("Very Cold weathe");

}else{

if(temp<=20){

print("Cold weather");

}else{

if(temp<=30){

print("Normal Temp");

}else{

if(temp<=39){

print("Its Hot");

}else{

print("Its Very Hot");

}

}

}

}

}

}

Q.6: Write a program to check whether an alphabet is a vowel or consonant.

Answer:

void main(){

var alphabet="d";

if(alphabet=="a"||alphabet=="e"||alphabet=="i"||alphabet=="o"||alphabet=="u"){

print("$alphabet is a Vowel.");

}else{

print("$alphabet is a consonant.");

}

}  
Q.7: Write a program to calculate and print the Electricity bill of a given customer. Create variable for customer id, name, unit consumed by the user, bill\_amount and print the total amount the customer needs to pay. The charge are as follow :  
  
Unit Charge/unit  
upto 199 @1.20  
200 and above but less than 400 @1.50  
400 and above but less than 600 @1.80  
600 and above @2.00;  
  
Test Data :  
id: 1001  
name: James  
units: 800  
Expected Output :  
Customer IDNO :1001  
Customer Name :James  
unit Consumed :800  
Amount Charges @Rs. 2.00 per unit : 1600.00  
Net Bill Amount : 1600.00

Answer:

void main() {

num id = 1001;

var name = "James";

num unit =200;

print("Customer IDNO :$id");

print("Customer Name :$name");

print("unit Consumed :$unit");

if (unit <= 199) {

unit = unit \* 1.2;

print("Amount Charges @Rs. 1.20 per unit $unit: Net Bill Amount : $unit");

} else {

if (unit < 400) {

unit = unit \* 1.5;

print("Amount Charges @Rs. 1.50 per unit $unit: Net Bill Amount : $unit");

} else {

if (unit < 600) {

unit = unit \* 1.8;

print("Amount Charges @Rs. 1.80 per unit $unit: Net Bill Amount : $unit");

} else {

unit = unit \* 2;

print("Amount Charges @Rs. 2.00 per unit $unit: Net Bill Amount : $unit");

}

}

}

}

Q8: Create a marksheet using operators of at least 5 subjects and output should have Student Name, Student Roll Number, Class, Percentage, Grade Obtained etc.  
i.e: Percentage should be rounded upto 2 decimal places only.

Answer:

void main() {

var name = "Faisal Ali";

num roll\_number = 302;

var clas = "Matric";

num English = 78;

num Math = 90;

num Physics = 85;

num Chemistry = 72;

num Urdu = 68;

num obtain\_mask=English + Math + Physics + Chemistry + Urdu;

num persentage = obtain\_mask / 5;

print("Student name is $name.");

print("Student Roll Number is $roll\_number.");

print("Student Class $clas");

print("Obtain Mask $obtain\_mask.");

print("Total persentage:$persentage");

if (persentage >= 90) {

print("Your Grade Is A+.");

} else {

if (persentage >= 80) {

print("Your Grade Is A.");

} else {

if (persentage >= 70) {

print("Your Grade Is B+");

} else {

if (persentage >= 60) {

print("Your Grade Is B.");

} else {

if (persentage >= 50) {

print("Your Grade Is C");

} else {

print("Your Grade Is F and Your a Fail.");

}

}

}

}

}

}  
  
Q9: Check if the number is even or odd, If number is even then check if this is divisible by 5 or not & if number is odd then check if this is divisible by 7 or not.

Answer:

void main() {

int number=21;

if(number%2==0){

print("Number is Even.");

if(number%5==0){

print("$number is devisible By 5.");

}else{

print("$number is Not devisible By 5.");

}

}else{

print("Number is Odd.");

if(number%7==0){

print("$number is devisible By 7.");

}else{

print("$number is Not devisible By 7.");

}

}

}  
  
Q10: Write a program that takes three numbers from the user and prints the greatest number & lowest number.

Answer:

void main() {

num number1 = 24;

num number2 = 34;

num number3 = 67;

if (number1 > number2 && number1 > number3) {

print("$number1 is Gratest Number.");

} else {

if (number2 > number1 && number2 > number3) {

print("$number2 is Gratest Number.");

} else {

if (number3 > number2 && number3 > number1) {

print("$number3 is Gratest Number.");

}

}

}

if (number1 < number2 && number1 < number3) {

print("$number1 is Lowest Number.");

} else {

if (number2 < number1 && number2 < number3) {

print("$number2 is Lowest Number.");

} else {

if (number3 < number2 && number3 < number1) {

print("$number3 is Lowest Number.");

}

}

}

}

Q11: Write a program to calculate root of any number.  
i.e: √y = y½  
Answer:

import 'dart:math';

void main() {

num Number=25;

num rootNuber=sqrt(Number);

print(rootNuber);

}

Q12: Write a program to convert Celsius to Fahrenheit .  
i.e: Temperature in degrees Fahrenheit (°F) = (Temperature in degrees Celsius (°C) \* 9/5) + 32

Answer:

void main() {

num tempC=25;

num TempF=(tempC\*9/5)+32;

print(TempF);

}